Sectt. II-22—40,604—6-11-29.

L. S. G. (1929) Department.

NS SERIES.

G.O. No. 2719 P.H.

DATED 7. 11. 1929.

[Despatch Abstract.]

Water supply Scheme - Mangalore Municipality - Papers Recorded

=

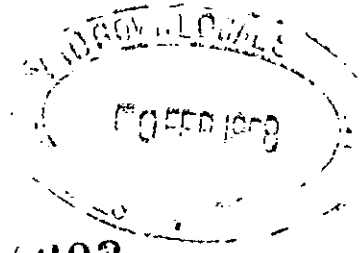
POST COPY OF TELEPHONE MESSAGE.

From

The Sanitary Engineer to Govt.,
M a d r a s.

To

Deputy Secretary to Government,
Local Self Government Department,
Fort St. George, Madras.



4603

Reference your T.M. of the 7th re: Mangalore water supply scheme. The report is being fair copied and will be forwarded on the 9th of this month. The report is being sent to the Chief Engineer since it was upon his recommendation that the further investigation was sanctioned.

J.S.Westerdale,
8-2-28
Sanitary Engineer to Govt.

PSN/8-2-28.

C.F 32

In reply, please quote number, date and short title.*

V Public Works DEPARTMENT.

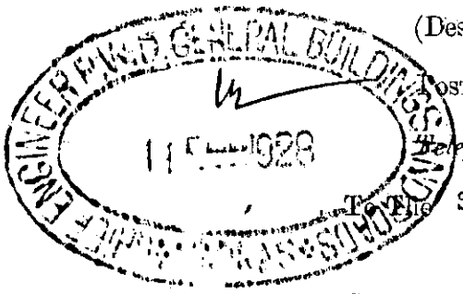
Received ..... *Registered* .....

From (Name) J.S.Westerdale Esq.,B.Sc.,M.Inst.C;E.,

(Designation) Sanitary Engineer to Government,

Post Box ....., (Station) Triplicane, Madras.

Telegraphic Address Santenger.



To The Secretary to Government,
Local Self Government Department,
Madras.

Through the Chief Engineer, P.W.D., Genl., Buldgs. & Roads.

No. 829. *dated* 9th February 1928.

Sir,

Enclosures .....
12 plans in 1 cover.
2 Estimates
1 Report of D.S.E. ~~except~~
Spare Copies .....

* Mangalore Water Supply Scheme.

(P) With reference to G.O.No.357 Mis.P.H. dated 14-2-25 approving the further investigation of the Hassamar Valley source for a water supply scheme for Mangalore, I have the honour to report that at the end of the working season in 1927, that is to say, at the beginning of the South West Monsoon, only 13 borings out of the 30 contemplated had been made and the work was suspended by the Deputy Sanitary Engineer,Southern Circle,until after the monsoon.

nterim Report called for.

2. As a decision regarding this Water Supply Scheme had been so long delayed, I asked the Deputy Sanitary Engineer on 14-9-1927* to send in a report on the re-investigation done up to'date with a view to decide whether the results were sufficient to form any conclusions regarding the suitability of the proposed site for a masonry or earthen dam.

*S.E.'s No.1379 S d/14-9-27.

Dy.Sany.Engr.'s Investigation Report.

3. The following is a copy of the Deputy Sanitary Engineer's report[M] on the investigation:-

M D.S.E.(S)No.429 S d/1-10-27.

"Re: your No.1379 S. dated 14-9-27. About 13 borings shown in plans S.W.Nos.19 & 20 of 1927 were attempted of which 11 have been taken to hard granite rock. The present borings show that hard rock cannot be met at any higher level to make masonry dam economical and any further borings would seem to be unnecessary.

"Even Mr.Mullings in his report on the raisi

of the Labugama dam which is an earthen one states that the condition there are identical as at Hassamar Valley.

"A scheme with earthen dam as outlined in S.W. No.627 S.E. dated 13-12-1920 may therefore be adhered to. If this scheme is decided upon, the alignment of the gravitation main and other details will have to be investigated for which sufficient funds are available."

Reasons for re-investigation.

4. The re-investigation was recommended by the Chief Engineer because the borings made previously appeared to show that the Hassamar Valley consisted of an erosion of a laterite ~~cap~~ cap of considerable thickness overlying the gneiss and consequently the depth of laterite over the gneiss was greater at the flanks than in the deep bed of the valley and too great for it to be possible to construct a masonry dam founded on the gneiss or to carry a core wall of an earthen dam down to the level of the gneiss or to any impervious stratum. The purpose of the re-investigation was mainly to confirm or disprove this conclusion which was based only on the evidence of a single line of borings.

5. The results of the borings taken in 1927 are shown on plans:-

S.W.No.19/27.	Position of borings.
S.W.No.20/27.	Sections of borings.
San.No. 5/28.	Showing a continuous section of the 13 borings,

wo copies of each of which are forwarded with this letter.

Confirmation of previous inference.

6. San.No.5/28 considered in conjunction with the revious section Plan No.19 confirms the fact that the aterite ~~cap~~ cap over the gneiss would be 60' or more at the flanks of any dam which could be constructed at a suitable site in this valley.

Comparison with Labugama Dam of Colombo W.W;

7. It may be finally decided therefore that the idea of constructing a masonry dam founded on hard rock or any form of dam with an impervious core carried down to

to and keyed into hard rock must be abandoned. Whilst quoting from the opening lines of the report on the Labugama Dam of the Colombo Water Works, where Mr. Mullings referred to the similarity of the geological formation (laterite - over granitoid gneiss) in both cases as an argument in support of the construction of a similar dam at Hassamar Valley, Mr. Thurai Singham failed to quote also from a few lines further down Mr. Mullings' report which showed that the conditions at the Labugama Dam site were such that

> "there is a clay puddle core from maximum water level down to the gneiss in the stream bed"

of such excellent quality that

> "the saturation line being independent of water level in the reservoir" the bund "shows a degree of water tightness that is unusual".

It will thus be seen that the conditions are only identical as regards the general geological formation but the sub-soil conditions are such that the method of construction adopted at Labugama cannot be followed in the Hassamar Valley.

8. There are however many earthen dams constructed in this Presidency without water-tight cores keyed into impervious stratum and I do not think we need hesitate to construct a similar dam in this case. To reduce the possibility of leakage through the body of the dam itself a clay core wall may be provided and keyed to a depth of 5' into the laterite below the base of the dam if suitable clay can be procured at a reasonable cost. The Deputy Sanitary Engineer, Southern Circle reported in his No. 244 S. dated 24-10-1922 that the Executive Engineer, West Coast Division stated that suitable clay could be provided at the dam site at Rs 5-8-0 per 100 Cft.

9. Even should the provision of a clay puddle core be found impracticable in actual execution, an ordinary earthen dam is not out of the question. In the case of the Berijam Reservoir on the Palni Hills an earthen dam to impound water 30' deep was constructed successfully over marshy peat

peat of unknown depth*. The soil under the dam in this case was so soft that it is known from actual experiment to have compressed 4½' under the weight of the bund. As the surface soil in the Hassanar Valley is hard and well drained, I consider that we might safely construct a dam to impound water to a depth of 35'. As in the case of the Berijam Reservoir the depth of water might be limited during the first year or two after construction and gradually allowed to rise to F.T.L. whilst keeping the dam under observation.

*Vide G.O. No.484-I dated 2-12-1909. & connected - papers.

10. Assuming that a dam could be constructed to impound water to a depth of 35' the possibility of developing a Water Supply from this source is examined below. The particulars regarding catchment and rainfall taken from the Deputy Sanitary Engineer's report forwarded to the Chief Engineer in this office No. 478 G. dated 12-7-1921 are as follows:--

Catchment about 250 acres		
*Average rainfall (1870-1914)	.. 131"	*corrected by me.
Average of the driest 3 years including 1899.	.. 115"	
Maximum rainfall about	.. 151"	
Minimum rainfall 1899	.. 89"	

As the bulk of the rainfall takes place in heavy downpours during the monsoon period and as the catchment is clean and rocky it would be on the safe side to assume a run off of 50%.

Taking the average rainfall of 3 dry years the run-off at 50% would be about 53 x 10^6 Cft. i.e 5,30,00,000 C.ft.

Allowing for a population of 60,000 the annual consumption of water at 5 gallons, 7½ gallons and 10 gallons per head per day would be:--

at 5 gallons per head ..	17.5 x 10^6 Cft.	✓ 1750,0000 Cft.
at 7½ gallons per head ..	26.3 x 10^6 Cft.	✓ 2630,0000 Cft
at 10 gallons per head ..	35.0 x 10^6 Cft.	✓ 350,00,000 Cft

It will thus be seen that the valley should be able to supply the requisite quantity without making any allowance for the possibility of recovering any of the remaining 50% of the rainfall by such means as infiltration galleries below the tank bund.

11. The next point for consideration is that of the storage capacity necessary and that possible with a reservoir 35' deep at site of bund. From plans San.Nos. 6 & 7/1928 depicting the cross sections Nos. 25, 26, 27 and 28 shown in plan on plan S.W.No.50/20, C.S.No.26 appears to be the most favourable for the location of the bund. At this position the lowest bed level at site of bund may be taken as 216.00.

From the calculations of cubic contents between 3 foot contours prepared by the Deputy Sanitary Engineer with reference to para 2 of P.W.D.Memo.No.2245 Wks/B-1 dated 25-10-1921 and forwarded to you with my No. 775 G. dated 2-12-1922 the capacity of the lower reservoir between 216.00 and 251.00 would be about 19.8 x 10^6 Cft. 19800,000 Cft

12. As the bulk of the rainfall occurs in the four months June to September, it would be advisable to provide for 8 months storage.

Allowing for 6' evaporation during the 8 months storage which is liberal for the West Coast, the nett available storage capacity would be about 19.8 minus 5.7 or 14.1 million Cubic feet.

13. For an ultimate population of 60,000 a supply of 14.1 million Cft. would provide 6 gallons per capita per diem.

14. Whilst admitting that this is below the per capita basis of supply we aim at for large Municipalities, it may be noted that out of 22 District Municipalities with protected Water Supply in this Presidency, which keep any record of the consumption of water, 10 have a rate of consumption of 7.1 gallons per head or less. There is no doubt that if consumption is properly controlled, 6 gallons per head per diem of the total population, which includes children and infants, is ample for purely domestic purposes. Assuming that the average household consists of six persons this rate would allow 36 gallons or nine 4-gallon kerosine oil tins of water per house per diem.

15. The above calculations take no account of the possibility of augmenting the supply and of ultimately increasing it. The calculations allow for a preliminary loss of 50% of the total rainfall by evaporation and absorption. It is possible that an appreciable portion of the water lost by absorption will be recoverable both naturally by slow percolation through the soil into the reservoir and artificially either by the provision of an infiltration gallery beneath or below the bund or by collecting the water from the springs shown at level 191 about 420' below the site suggested for the lower dam.* These springs will almost certainly increase in magnitude after the construction of the reservoir and, with reference to the level at which they appear, can command a large portion of the lower areas of the town.

Augmenting the supply.

(a) By utilising springs below site of tank bund.

*Vide plan S.No. 50/1920.

16. The Chief Engineer's criticism of my previous proposal to lay an infiltration gallery under the tank bund must have been based on a misunderstanding as to the exact meaning of my proposal. An infiltration gallery under the tank bund would not lead water under pressure to the under side of the bund. It would on the other hand drain away any water which had found its way there by percolation and would thus help to keep the bund dry, relieve any water pressure which might occur by natural saturation and in all respects have exactly the opposite effect to that contemplated in the Chief Engineer's Memo. The construction of an infiltration gallery either under or below the tank bund is therefore another possible means of augmenting the supply.

(b) By infiltration galleries.

Memo. No 402 Ms B. dated 6/4/25

17. The storage capacity could be increased subsequently by raising the F.T.L. and the top bund level of the proposed storage reservoir or by constructing a 2nd storage reservoir higher up the valley as proposed originally by the Deputy Sanitary Engineer and shown on plan S.W.No.50/20. I do not recommend the construction of the upper reservoir in the first place for the following reason. If observation

Increasing the supply by increasing the storage.

observation of the behaviour of the lower dam after its construction shows that the water level in the lower reservoir can be safely raised, a much greater additional storage could be obtained for the same cost than by constructing a new upper dam and reservoir. For example the Deputy Sanitary Engineer estimated the capacity of the upper reservoir at 10 million cubic feet with a depth of water of 20' whereas by raising the F.T.L. of the lower reservoir by 9' to level 260.00 its capacity would be increased by 10.8 million Cft.

18. It will be seen therefore that a supply of 6 gallons per head per diem can be relied upon with the construction of an earthen dam impounding 35' depth of water near its bund. It is probable that this could be increased to 7 or 7½ gallons per head by infiltration galleries or by harnessing the spring below the dam site and that it could be increased to at least 10 gallons subsequently by increasing the storage capacity.

19. I have to recommend therefore that the Hassamar Valley should be decided upon as the source of water supply with an earthen dam constructed at or near C.S.No.26 on plan S.W.50/20 to impound water to level 251.00. During the final stages of the investigation, to collect data for the gravitation main and distribution system and for the preparation of detail plans and estimates, it may be decided whether to augment the supply by a gallery under or below the bund or by harnessing the spring below the dam site.

20. The approximate first cost of the scheme and the cost of maintenance would be Rs 8,00,000 and Rs ~~4,000~~ 4500 according to the enclosed estimates.

I have the honour to be,
Sir,
Your most obedient servant,

J. S. Khaladkar
9/2/28.

Sanitary Engineer to Govt.

Encls:-

PSN/8227.

15
9/4/28

9

Chief Engineer's office
P.W.D. (G B & R)

Endorsement:-- No. 624 wks/28-2
25-5-28

F o r w a r d e d.

2. A copy of the note containing my remarks on the subject is also enclosed. pp 22-25 below

W.G. Molesworth
24.5.28
Chief Engineer, P.W.D.

No 8660

To the Secy. to Govt. L.S.G.Department.
through the Secretary to Govt. P.W & L Dept

with a copy of the Chief Engr's note No. 625 wks/28-1 dated 25-5-28 and plans and estimate. 1 p 22 below

Retained in Madras office
Attd 28/5.

Attd
28/5/28.

10

ESTIMATE FORM—Abstract.

Item number.	Quantity.	Description of work	Rate.	Per	Amount	Total.
1	2	3	4	5	6	7
			Rs.		Rs.	Rs
		MANGALORE WATER SUPPLY SCHEME.				
		Approximate initial cost.				

1		Earthen dam for lower tank			40000	
2		Surplus works, tower sluice, quarters for the head works establishment &c.			52000	
3		Filter Beds or Infiltration Gallery.			50000	
4		Gravitation main (14" C.I. B.Class pipes) 40,000 feet long.			360000	
5		Service Reservoir			40000	
6		Distribution system 5 miles			100000	
		Unforeseen works			26400	
		Contingencies at 5%			32100	
		Centage charges at 15½%			99500	

Grand total of estimate Rs 8,00,000

STATION

Date 192 .

PSN/8-2-28.

J. S. Wallace
9/2/28
Executive Engineer.

Sanitary Engineer to Govt.

P.W.D. V-14—71,987—2[illegible]5 (5)

E. No. 32.

CIRCLE—

DIVISION—

DISTRICT—

TALUK (OR ESTATE IN CASE OF ESTATE WORKS).

ESTIMATE FORM—Abstract.

Financial head—

Budget head—

Departmental head -

Main head—

Sub-head—

Project of which
the work forms part—

Section—

Name of work—

Amount of estimate, Rs.

To be carried out by—

REFERENCES.

ESTIMATE FORM—Abstract.

Item number.	Quantity.	Description of work	Rate.	Per	Amount	Total.
1	2	3	4	5	6	7
			Rs.		Rs.	Rs
		MANGALORE WATER SUPPLY SCHEME.				
		Annual maintenance charges.				
		Establishment.				
		At Head Works.				
1		Superintendent	40	month	480	
4		Lascars	12	"	576	
		In Town.				
1		Supervisor on Rs 150/- (1/3 charged to Water Works)	50	"	600	
6		Turncocks & fountain cleaners	12	"	864	
1		Fitter	35	"	420	
		Repairs to pipe line, maintenance of filters, tank bunds, etc.			1560	

P.W.D. V-14—71,[redacted]-26 (5)/

E. No. 32.

CIRCLE—

DIVISION—

DISTRICT—

TALUK (OR ESTATE IN CASE OF ESTATE WORKS).

ESTIMATE FORM—Abstract.

Financial head—

Budget head—

Departmental head—

Main head—

Sub-head—

Project of which
the work forms part—

Section—

Name of work—

Amount of estimate, Rs.

To be carried out by—

REFERENCES.

12

Note by the Chief Engineer, P.W.D.

No. 624 Wks 28-1 dated 25-5- 1928.

****

For a detailed history of the Scheme vide pp 14-22 of Gov. No. 2417 P.H dated 2.12.29 (F) (B)

The investigation of the Hassamar Valley as a source of water supply tothe town of Mangalore was sanctioned in G.O. No. 1162 M, dated 7th July 1917 and the Sanitary Engineer submitted in July 1921 a report on the result of his investigation. On examination the then Chief Engineer (Mr. Hutton) was of opinion that at the junction of the laterite with the underlying granite, there are numerous springs, showing the porosity of the laterite and he considered that it is essential to have an impervious wall of puddle clay in the bund of the tank from granite level to F.T.L. to store up water during the dry months. It was also considered that a single reservoir at the low site is preferable to two reservoirs, one upper and the other lower as proposed by the Sanitary Engineer. The Sanitary Engineer was therefore asked in Memo. No. 2245-Wks-B-1 dated 25th October 1921 to have bore holes sunk along the line of the lower dam site at intervals of 50 ft. down to granite and up to 266.00 contour each side of the valley and to report the results. An estimate amounting to -- Rs. 1,200/- for this purpose was sanctioned in G.O. No. 909 P.H. dated 29th. June 1922.

× not traced in Secy

The Sanitary Engineer with his letter of

2nd Decr.1922 submitted plans showing the results of the borings taken along the line of the lower dam site. An examination of the plans showed that the laterite does not extend down to granite except in one or two places and that clay of different types, lime, and chalk overlay the granite stratum. As samples of the materials bored through were not also kept, the Sanitary Engineer was told in Memo.No.2603-Wks-B/22-2 dated 4th April 1923 that further borings were necessary to test the impermeability of the strata overlying the granite and that it might be taken at the two flanks of the site originally selected. not received.

The Sanitary Engineer accordingly submitted an estimate amounting to Rs. 5,200/- for the further investigation of the dam site. The Chief Engineer considered that 30 borings as suggested by the Sanitary Engineer are not required and that 30 borings are sufficient. The proposals of the Chief Engineer to carry out further investigation by putting down 30 additional borings at the site of the dam at a cost of Rs. 3,120/- were approved in G.O. No. 357-P.H., Mis., dated 14th February 1925. (P)

Only 13 borings out of the 30 contemplated in the above G.O. have been made and it is seen that hard rock is not met with at a higher level,

that

that laterite does not extend down to granite and that clay of different types overlay the granite stratum.

The Sanitary Engineer is of opinion that the idea of constructing a masonry dam founded on hard rock or any form of dam with an impervious core carried down to and keyed into hard rock must be abandoned and recommends that an erathen dam with a clay core wall keyed to a depth of 5 ft., into the laterite below the base of the dam, if suitable clay can be procured at a reasonable cost, may be constructed to impound water to a depth of 35 ft. near the bund.

The proposal of the Sanitary Engineer to construct an earthen dam with a clay core wall is recommended for adoption. If good clay is not available cement concrete core wall may be provided instead. The extra cost of the latter type of core wall may, perhaps, be met from the provision made for unforeseen works.

It is pointed out by the Sanitary Engineer that an appreciable portion of water lost by absorption will be recoverable both naturally by slow percolation through the soil into the reservoir and artifically either by the provision of an infiltration gallery beneath or below the bund or by collecting the water from the springs at level 191.00 about 420 ft. below the site of the dam.

The

The question of augmenting the supply as proposed by the Sanitary Engineer may be considered later on if experience shows after the scheme is completed that the supply is insufficient. The provision of Rs.50,000 made for the work in the estimate may be omitted.

The scheme has been estimated to cost approximately Rs. 8 lakhs as detailed below and Rs. 4,500/- to maintain annually.

Earthen dam for lower tank.	..	40,000
Surplus works, tower sluice, quarters for the head works establishment etc.	..	52,000
Filter beds or Infiltration gallery.		50,000
Gravitation main (14" C.I.B.Class pipes) 40,000 ft. long.	..	3,60,000
Service Reservoir. ..	..	40,000
Distribution system 5 miles.	..	1,00,000
Unforeseen works. ..	..	26,400
Contingencies at 5%.	..	32,100
Centage charges at 15½%.	..	99,500
Total	Rs.	8,00,000

Omitting the provision for the infiltration gallery, the initial cost of the scheme estimated to cost Rs. 7.4 lakhs is recommended for sanction.

W. J. Malsworth
24.5.18

Chief Engineer, P.W.D.
(General, Buildings & Roads).

16

G. S. Gr. P. W. 2 D. 4 b

15/9/6 W.2-5/26/6

From the Sanitary Engr
No. 82 G
9-2-28

To the Chief Engineer
624 W.Ks
28-1 d 25-5-28

Subject Water-Supply - Mangalore Municipality:

D/ with enclosure
C/ kept before
18/6

O.M. No. 23383-1D-2 P.N dated 19/4/28

The reports read above regarding the Mangalore water-supply scheme are communicated to the Mangalore Municipal Council.

2. The Sanitary Engr reports that a scheme for the installation of a protected water-supply in the Municipality is estimated to cost Rs 8,00,000 to instal and Rs 45,00 annually to maintain. The Chief Engr recommends that the construction of an infiltration gallery (filter beds or), for which provision has been made in the scheme, may be considered if the supply is

p 25 C/

insufficient after the scheme has been completed. The Govt accept the recommendation. The estimated cost of the scheme will, therefore, be reduced from Rs 8 lakhs to Rs 7.40 lakhs.

3. Assuming that the Govt meet one half of the capital cost of the scheme, the Municipal Council should provide the remaining half. It should also provide the annual maintenance charges.

If the Council takes a loan of its share of the capital cost (Rs 3.70 lakhs) irrepayable in twenty equal annual instalments with interest at 5¼ per cent per annum, it will have to provide a sum of Rs 30,320 annually towards the repayment of the loan. Including the annual maintenance charges it will have to provide a sum of Rs 34,820 every year.

30320
4500
34820

An examination of the financial position of the Council shows that its

average annual surplus under the General Account amounts to Rs 25,000. Out of this surplus, a sum of Rs 10,000 is reserved to maintain the required minimum balance and also to meet any unforseen expenditure, the balance (Rs 15,000) can be utilized for the purpose of the water-supply scheme. Deducting Rs 15,000 from Rs 34,820 ~~which~~ the balance of the amount to be provided by the Council is Rs 19,820. In order to provide this amount the Council should levy a water and drainage tax at 2½ per cent.

4. The grant due towards the cost of the scheme will be sanctioned subject to the condition that the Council agrees to afford such facilities for the supply of water to Govt buildings and institutions, whenever required, as the Govt may think

necessary. Payment will be made for the water-drawn at such rates as may be fixed by the Council in the water-works by-laws to be adopted by it.

5. The C. M. C. Mangalore is requested to report

(1) whether the Council accepts the proposed scheme

(2) whether the Council accepts the arrangements set out in para 3 above as regards the financing of the scheme

(3) whether it accepts the conditions specified in para 4 above and

(4) whether it is willing to levy the water and drainage tax at 9½ per cent from ~~1928-29~~ 1929-30 or with effect from the year in which the scheme is sanctioned for execution

Dpd by Messenger
Vsn ✓
Print ✓
Dpr's. initials
Date 14/12.6.1928

To The C. M. C. Mangalore ✓ Sd/- with
(2) pp 2-11 Cf. in original to be returned with reply
(3) copy of pp 22-25 Cf.

The Sanitary Engr
The Chief Engr through the S.E. & D.E. Sd/-

14/6/28

Sd/-
4.6.28

20

LSG (PH) Dept

Certified
29/9

29/9

Subject-

Water Supply - Mangalore Municipality - Memo

No 23383-1/2 PH dt 15-6-28.

Memo No 23383-2/2 PH dt 29-9-28.

The attention of the C.M.C. Mangalore is invited to the memo referred to above and he is requested to state when his reply may be expected.

TO
The C.M.C. Mangalore.

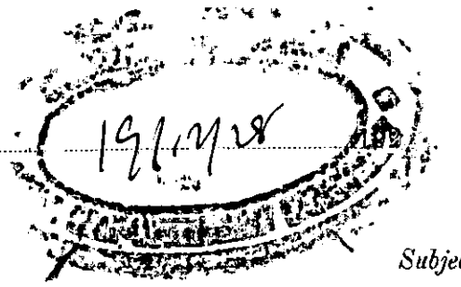
28/9
28.9.28

Dpd
Dpr's. initials
Date 1.10 1928

D2/21

C.F. 30—10,000—31-1-27.

DEPARTMENT.



Received 19/12/28 192 *Registered* ..... 192 .

Subject. .....

Subject:- Water-supply - Mangalore Municipality - Report - submitted.

****

ENCLOSURES.

No. One

.....

Spare copies .....

G. No. 793
28 29.

Station Mangalore., *Dated the* 15th December 192 8.

From (Name) M.R.Ry. Rao Saheb Nellikai Venkat Rao, Av...

(Designation) Chairman, Municipal Council, Mangalore.

To The Secretary to the Government of Madras,

Local-Self Government Department.

Sir,

M2-29-7 Referring to Government Memorandum No.23383-1D 2P.H., dated 18th June 1928, I have the honour to state that the --- Council accepts the terms proposed by the Government and ---- places the following suggestion for their kind consideration as to whether reinforced concrete pipes laid at higher level would not meet the requirements and thereby reduce the cost from Rs.3,60,000 to about half of the said amount.

The Council also requests the Government to entirely forego centage charges as a special case.

18/12/28

2

A copy of the Council's resolution on the subject is enclosed.

Your obedient servant,

Chairman, M. C.

M.S.

H.D.U.

Vr 2/17 No.

Extract from the Proceedings of the Mangalore Municipal Council, dated 29th October 1928

PRESENT:-

X X X

16. Read report of the committee on the subject of financing etc., of the water supply scheme to Mangalore ---- Municipality and the file of connected papers.

The Council accepts the committee's recommendations and the Government to be addressed accordingly.

X X

/TRUE EXTRACT/

Mangalore Municipal Office,
15th December 1928.

Chairman, M. C.

H.D.U.

24 + 2 Nos
26/2/29

27/2/29

C No 53759 from the C.O.C. Mangalore No 793/29 d 15-9-28

Subject-

Water Subsidy. Mangalore Municipality. Ref. on No 23383-1½ BH d 18-6-28.

Memo No 23383-4½ BH d 26-2-29

The C.O.C. Mangalore is informed that in the circumstances explained by the Chief Engineer in his note No 624-WKS-28-4 d 7-2-29 (copy enclosed) the suggestion to substitute reinforced Concrete pipes for the C.I. B-class pipes cannot be accepted. Nor are the Govt prepared to waive the Cartage charges. The C.O.C. is therefore requested to report definitely whether the Council is prepared to accept the proposals recommended in memo No 23383-1½ BH d 18-6-28 and if so to submit a copy of the Council's resolution in the matter.

RBH
23/2.

Dpd. by Van / Post / Messenger
Dpr's. initials. BH
Date 28/2 1929.

Ad 26-29-C

To
The C.O.C Mangalore
(with copy of CE's remarks)

Ad 6 2 29

25-2-29

U.F. 30.

DEPARTMENT.

Received ..... 192 Registered 20355 192

Subject.

WATER SUPPLY

Mangalore Municipality.

ENCLOSURES.
No Nil
Spare copies —

C. No. 793-A.

Station Mangalore, *Dated the* 25th May 1929.

From (Name) M.R.Ry. K. Vittal Shetty, Avergal,
(Designation) Vice Chairman in charge under sec.18(2) Municipal Council, Mangalore.

To The Secretary to the Government of Madras,
Local Self Government Department.
Fort St. George, Madras.

Sir,

p. 34 Gen. Proc.

Referring to Government Memorandum No.23383-4.D.2. P.H. dated 26th February 1929 I have the honour to state as follows:-

The scheme has been estimated to cost Rs.7.4 lakhs to instal and Rs.4,500 annually to maintain. The estimate is exclusive of the cost - Rs. 60,000 - of filter beds or an infiltration gallery, the construction of which is proposed to be considered if the supply of water is found insufficiant after the scheme has been completed. To meet the Council's

AR 29/5

share of the cost and the annual maintenance charges it has to provide a sum of Rs.34,820 every year. The annual average surplus of the Council under General Account is estimated by Government at Rs.25,000. Reserving a sum of Rs.10,000 to --- maintain the required minimum balance and to meet any unforeseen expenditure, the balance of Rs.15,000 is considered by - Government as available annually for being utilized for the purpose of the scheme. Deducting this amount from Rs.34,820 the balance to be provided by the Council annually is estimated at Rs.19,820 to meet which Government suggest the levy of a Water and drainage tax at 2½ per cent. The Council considers that its present financial position is not such as to - enable it to spare Rs.25,000 annually from its ordinary income. Its budget for the current year closes with a balance of only Rs.1,213 or Rs.8,387 less than the minimum balance of Rs.9,600 required to be maintained. The net capital expenditure of Rs.28,800 proposed is in respect of absolutely necessary items of works and a number of such other items have been differed for want of funds. The expenses of the Council are increasing year after year and it finds itself unable to provide -- funds to meet the cost of the most urgent and necessary items of work. The Council will not therefore be in a ~~xxxx~~ position to spare funds for the scheme from its ordinary income and the entire annual cost of the scheme amounting to Rs.34,820 will have to be met by recourse to additional taxation.

The property tax is levied at 10 per cent. The - profession tax, the companies tax and the vehicle and animal taxes are levied at the maximum rates. To meet the cost of the scheme it will have to levy an additional Water and drainage tax at 4½ per cent. The Council hesitates to accept such - large financial committment involving recourse to additional taxation to that extent and has decided to invite public --- opinion by publishing details of the scheme in all the local papers. The publication has been arranged for and the Council

intends to consider further in the matter on receipt of ----- suggestions or objections from the rate-payers. I request - therefore that Government may be pleased to allow the Council time till the end of August next to send their final reply in the matter.

Government have declined to waive the centage charges. The capital cost of the scheme is Rs.7.4 lakhs of which the -- Government meet one half. The Council in the meanwhile has asked me to request Government that they may be pleased to -- waive the charges at least on the amount to be contributed by Government. This would reduce the cost by about Rs.40,000.

I have the honour to be,

Sir,

Your most obedient servant,

O Ramaiah

for Vice Chairman, M. C.

P.S.

Local Self Government Department

***

Read.-

From the Chairman, Municipal Council, Mangalore,

C.No.793 A., dated 25th May 1929.

M E M O R A N D U M

No.20355-1 D.2 P.H.,dated 6th June 1929.

Water supply - Mangalore Municipality.

The Chairman, Municipal Council, Mangalore is informed that Government agree to wait till August next for the ~~Chair-~~ Council's decision in regard to the financing of the water supply scheme.

2. The Chairman is also informed that Government are unable to reconsider the question of centage charges.

S.Ranganathan,

Deputy Secretary to Government

To

The Chairman, Municipal Council, Mangalore.

F o r w a r d e d

(By Order)

7.6.29

Superintendent.

C.M.

21 29

9.54 (PH) Dept

51/9.9.

Subject

Water Supply - Mangalore Municipality. Report

Nº 20355-1 D2 Pt. d 6-6-1929

138 C/F

Nº 20355-2 D2 Pt d 9-9-29

Items

The attention of the T.O.T.C. Mangalore is invited to the memo referred to above and he is requested to state whether any decision has been arrived at regarding the financing of the water Supply Scheme and, if so, when his reply may be expected.

To
The C.M.... Mangalore.

Van
Post
Dpl. ... Sur

Dpr. ... 89

Date 10/9/ 192 9

G.F. 30.

DEPARTMENT.

L.S.G.

Received 20/9/29 192 Registered 35[illegible] 192

Subject.

L.S.G.(Pub.Healths)

Water supply -- Mangalore.

DS
Looked. May be reminded during the first week of Nov. 29.

****

Appk 25/9 Wd 25.9.29

ENCLOSURES.
No.
Spare copies

C. No. 570/1
29--30

Station Mangalore, *Dated the* 18th September 1929.

From (Name) M.R.Ry.Rao Sahib Nellikai Venkat Rao, Avergal.,

(Designation) Chairman, Municipal Council, Mangalore.

To The Secretary to the Government of Madras,
Local Self Government (P.H.)
Department.

Sir,

Referring to Government Memorandum No.20355-2 D 2 P.H. dated the 9th instant, I have the honour to state that the --- council has not yet arrived at any decision regarding the ---- financing of the Water-supply scheme. The file of papers ---- were on the agenda for the meeting of the council held on the 16th instant, but the consideration of the subject has been --- deffered to the next meeting. Its decision will be communicated to Government soon after it has been arrived at by the end of October next.

Your obedient servant,

Chairman, M. C.

Rec'd 20/9

H.D.U.

D2 91

C.W.9806

To: S. E. & P.W. Depts

Subject: Water-supply - Mangalore Municipality - investigation report

The original of the Sup. Engrs report on pages 2 to 11 cf. regarding the Mangalore water-supply scheme has not yet been received in this Dept. The P.W.D. Depts may be requested to expedite the submission of the report.

A

Mngr

W.4986 1D2 Ok
14.5.28

12/5

W.D.
12.5.28

14/5

This may be sent to the CE (N&S) with reference to A above

15.5.28

14.5.28

11 MAY 1928
8238C

CE (N&S)

W.16/5

Please see CE's endt on p. 19 cf & his remarks on the pencil 22-25 cf. The file may be sent on to Engg Sec.

Pencil 8238 C/28-1
17.5.28

TM 26

29.5.28

ENGINEER P.W.D. GENERAL BRANCH
18 MAY 1928
2193

26383

DC 7 18

29/5

8238 C/28-2
29.5.28.

L. S. Gr P.W.) Dpt.

In G.O. No. 357 P.W. dated 14-2-25 (P)
the Govt ordered the further investigation of the Mangalore water-supply scheme by putting down 30 additional borings. Of these 13 borings have been put down. The San. Engr and the Chief Engineer consider that further investigation is not necessary. and

2. The Sanitary Engr reports that the scheme for the installation of a protected water-supply in the Mangalore Municipality is estimated to cost Rs 8,00,000. The annual maintenance charges are reported to be Rs 4,500. Among other things the scheme provides for the construction of an infiltration gallery at a cost of Rs 50,000. The Chief Engr is of opinion that the construction of the gallery need be undertaken only if the supply is found to be insufficient. This may be approved. The estimated cost will then be reduced to Rs 7.40 lakhs. pp 24-25 C

3. The question of financing the scheme on the half grant half loan principle is examined below:- pp 25 C.F.

To P. section

Sen
2/6/25

Asst
8.6.25

R.S.
8/6

following

The ~~Statement~~ Statement shows the Surplus (under the Genl. acct. only) of the Municipal Council for the last four years ending with 1928-29.

Years.		Surplus Rs.
1925-26	Actuals	23,311
1926-27	Actuals	25,866
1927-28	R.E.	27,345
1928-29	B.E.	30,050.

On an average the Surplus may safely be taken as Rs 25,000 a year.

2 The Cost of the Scheme is estimated to be only Rs 7·40 lakhs, as the question of Construction of an infiltration gallery has been (proposed to be) abandoned. (Rs 50,000) The Council has to find funds to meet the annuity for the repayment of a loan of Rs 3·70 lakhs and also the maintenance Charges of Rs 4,500 annually. The Annuity for the repayment of the loan of Rs 3·70 lakhs in 20 yrs with interest at 5¼ p.c. amounts to Rs 30,320. The Council has to find annually Rs 34,820 towards the repayment of the loan & to meet the maintenance charges. The average Surplus from its funds

0·08195 × 3·70 lakhs
or Rs 30,320

30,320
4500
34,820

D2

is only Rs 25,000. Of this, the Council has to reserve merely Rs 10,000 as minimum balance to meet any unforseen expenditure. The Council can therefore spare only Rs 15,000 out of its funds. The balance sum of (~~34,820~~ 19820 - 15,000) or Rs ~~20,000~~ 19820 will have to be found by levy of the water and drainage tax. Property tax is levied at 10 p.c and it is expected to fetch an income of Rs 87,800 according to the B.E for 1928-29. A levy of the water and drainage tax at 2½ p.c will therefore bring an additional revenue of about Rs 22,000.0 per annum

10 p.c — £7.2
2½ p.c — 22,...

~~The Council may therefore be~~ asked to levy the W & D tax at ~~2½ p.c with effect from the 1-10-1928~~.

~~With this~~ thus the Council can finance the Scheme by levying the water tax at 2½ per cent.

9.6.28.

9.6.28.

A draft G.O. is submitted

14-6-28

14.6.28

Ft 26-29 C+ Memo No 23383-1 D/H dt 18-6-28 to the C.N.C. Mangalore
Ft 31-33 C+ C.No 53759 from the C.N.C. Mangalore No 713 dt 15-12-28

Please see the letter from the C.N.C. Mangalore on Ft 31-33 C/f. He reports that the Council has accepted the terms proposed by the Govt. At the same time he requests the Govt to consider whether the Cost can be reduced by substituting reinforced Concrete pipes in place of "C.I.P. class" pipes and thereby reducing the Cost of laying the Gravitation main from Rs 3,60,000 to about half of the amount. The remarks of the P.W.D Deptt may be invited on this suggestion.

2. The Council also requests the Govt to entirely forgo contage charges as a Special case. These charges amount to Rs 99,500. It does not appear that there are any special reasons which justify the Council's request, unless the execution of the work is entrusted to the Municipal Agency. The remarks of the P.W.D Deptt may be invited on this suggestion also. These charges cannot, it is submitted, be waived.

a SG No 23383-3 D/H

SECRETARY TO GOVT. 7-JAN 1929 325C

2/1/29

4.1.29

36 P.W.D. Desk

No file may be sent with C.E. (G.B.R.) memo forwarding with reference to the P.S.C. Desk mtls on hand

ID

P.W. Memo No. 325C/29-1
14.1.29

Office of the Chief Engineer,
P.W.D. General, Buildings & Roads,

By "Reinforced concrete pipes" are apparently meant, "Hume pipes". The approximate estimate for the scheme provides for 14" C.I. B-class pipes. 14" pipes are not manufactured by Hume Company. The next nearest size is 15". The cost of this size tested to the required head, including conveyance to site, and laying and jointing will be about Rs.7-14-0 per R.ft., as against Rs.9-0-0 per Rft. allowed in the approximate estimate for C.I. pipes.

The cost will not therefore be reduced to about half the amount by substituting Hume pipes for C.I. pipes. Cast Iron pipes seem to be preferable as the difference in cost is not much.

Further the length of the main is about 8 miles and we have no experience of the suitability of Hume pipes in long lengths of main.

R.F.S.
6-2-29.

To
The Secretary to Government,
Public Works and Labour Department. U.O.

C.E.(S.B.&R.) memo 624, dtd 7-2-29

Dy 2 to Deptt

Please see the CE's remarks on page 6 ante in this reference (Para 1). The L.S.G Deptt. file can please be returned when the L.S.G Deptt. may now be returned to the L.S.G Deptt.

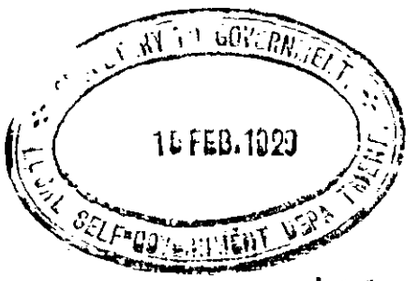
12/2/29

14/2/29

L.S.G.

14.2.29

P.W. Dis. No. 325C/29-2
15.2.29



15/2

The C.M.C. Mangalore may be informed that in the circumstances pointed out by the Chief Engineer the suggestion to substitute ~~Concrete~~ reinforced concrete pipes for cast iron pipes cannot be accepted and that the cartage charges cannot be waived. He may be requested to report definitely whether the Council is prepared to accept the proposals ~~Contained~~ recommended in memo 23383-1/2 PHd 18.6.28. A draft memo is subd for approval.

26.2.29

23/2

25.2.29

[Memo 23383-4/2 PH dt 26.2.29]

38

C No. 20355. From the C.M.C. Mangalore.
C No. 793 A/25.5.29

Please see the Chairman's reply on p 3½ of.

" He states that the Council considers that its present financial position is not such as to enable it to spare 25,000 annually from its ordinary income. He says that the Council will have to levy an additional tax at 4½ p.c. if it wants to meet the cost of the Scheme. Before levying such a tax, the C, it seems, has decided to invite public opinion by publishing details of the scheme in the local papers. The Chairman, therefore, requests the Govt to give the Council time till the end of August next to come to a decision. ~~From orders~~ Submitted that ~~extension~~ time may be given as requested.

2/ As regards, centage charges, we have already informed the C, that its request cannot be complied with. The Chairman now requests that the centage charges on the first portion of the cost at least, may be waived. He may be informed that the Govt cannot ~~reconsider~~ comply with this ~~the question~~ request also.

A draft

39

memo is submitted for approval

- MG - CSR

30/5/29

30/5/29

AS2

DS

11/4/6

4/6/29

138 cf [Memo No 20355- ID/Plt.d 6-6 29 to the C.M.C. Mangalore]

EA DS

No reply has yet been received from the C.M.C. Mangalore. He may now be reminded. A draft memo is subd. for approval.

6/6

6/6/29

DS

Please see the reply in their reply from the C.M.C. Mangalore on pp 40 cf: in which No final reply has been received although he promised to Communicate it by the end of October 1929. The reference has been pending for a year and four months. The Chairman may be informed that the matter will be taken up for consideration

after the final ruling of the Court has been received. A draft order is sent for approval.

5/11/29

5/11/29

Scott. II-5 (a)—48,004—6-11-28. (6)

	Date.	Initials.
When received for Fair-copying.		
When copied ..		
When examined ..		
When signed ..		
When despatched ..		

5v 7/11

a 54 (PH) DEPARTMENT.

READ AGAIN G.O. No ..... , dated 192

" " " " ..... " 192

READ ALSO:—

C. No. — From the Sen^r Engineer , No 829 , dated 9-2-1928.

" " 35554 " " C.O.C. Mangalore " 570/1 " 18-9-1929

" " ..... " " ..... " ..... 192 .

ORDER.

No. 2719 PH , dated 7.11. 192 9

Recorded

2. The question of providing a water supply Scheme for Mangalore will be considered after the receipt of the Council's resolution regarding the financing of the Scheme as set forth in memo no 23383-1D/2 P.H d 18-6-28.

Dpd. by Messr. Vm Pat

Dpr's. initials. BK

Date 7/11/1929

Dpd 6/11/29

H 16-11-29 C/F

TO The C.O.C. Mangalore ✓
The San^y Eng^r ✓
The Chief Engr for P.W.D.
The Coll of S. Kanara ✓

BPH 5/11/29 KB 5/11/29

7/11

36761

Extract from the Legislative Council Question No.401 regarding Mangalore Town Planning.

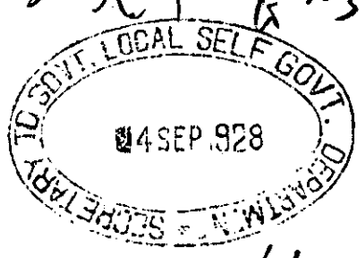
---

x x x

The other thing referred to is the Water-supply scheme to Mangalore. In what stage is that now?

S.M.
27-8-28

From Registry & return file below A3



36761

S.G (P.H) Dept

DS

Please see memo No 23383-1/2 PH d 18-6-1928 in the linked file for an account of the present stage of the Water Supply Scheme to Mangalore. The C.D.C. has been asked to report whether the Council accepts the scheme as outlined in the memo, and the conditions specified therein regarding financing it etc. His reply is awaited. He has been reminded recently.

BPK 17/9 19-9-28 M 21.9.28